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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/053,394	10/29/2001	Brett A. McClellan	TI-29849	3164
23494	7590	06/23/2004	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			KAPADIA, VARSHA A	
		ART UNIT	PAPER NUMBER	
		2651	DATE MAILED: 06/23/2004	

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Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/053,394	MCCELLAN ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Varsha A Kapadia	2651	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 1-3.
- 2a) This action is **FINAL**.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-3 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on October 29, 2001 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____ .  |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>1</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
|  | 6) <input type="checkbox"/> Other: _____ .                                  |

This office action is responsive to the papers filed on October 29, 2001.

### **Information Disclosure**

The information disclosure statement (IDS) submitted on October 29, 2001 is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

### **Rejection Under 35 U.S.C. 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 1 is rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi (6,507,447) in view of Dovek et al (5,650,880 provided by the applicant).

With regards to claim 1, Takahashi discloses a circuit to detect pin layer reversal (see figs. 8-9 and 13 and disclosure thereof) comprising: a detector for detecting positive and negative values from the input signal (see figs. 8-13 element 102 - disclosure thereof, col.4 line 31-33 col.6 lines 3-34, col.7 lines 24-32 and abstract); and a circuit responsive to the positive and negative values to generate a signal to indicate the pin layer reversal (see figs. 8-13 element 103 and disclosure thereof, col.4 lines 34-44, col.7 lines 33-50, and abstract).

Takahashi fails to further specify that the portion of the signal input to polarity detector includes servo sync mark and that the detector is detecting a positive and the negative servo sync mark from the signal.

However, Dovek et al discloses a polarity detector for detecting positive and negative servo sync mark as recited in the claim (see col.8 lines 37-44; wherein servo pattern is interpreted as servo sync mark and signal 123 indicates the reversal of the servo sync mark; col.7 lines 17-30; wherein Dovek et al explains that servo sync marks are polarity sensitive and that the magnetization direction of the pinned layer is responsive to the detection of successive pair of positive and negative servo sync mark).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify teachings of Takahashi with the above teaching from Dovek et al in order to accurately detect the polarity of the servo sync mark and to avoid high error rate due to the asymmetry between the positive and the negative pulses as disclosed by Dovek et al.

Claims 2-3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi in view of Dovek et al as applied to claim 1 above, and further in view of Tuttle et al (6,646,822).

With regards to claims 2-3, Takahashi in view of Dovek et al discloses the invention as described above in this office action with respect to claim 1. Takahashi and Dovek et al fails to disclose that the circuit responsive to the positive and negative servo sync mark includes a digital components i.e exclusive OR and AND circuit.

However such is disclosed by Tuttle et al, see fig.16 and disclosure thereof, wherein element E404 functions equivalent to exclusive OR.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the teaching of Takahashi in view of Dovek et al with the above teachings from Tuttle et al inorder to provide a digital circuit responsive the polarity detection using digital components since digital and analog circuits are widely used to provide alternate capability.

**Prior Art Cited**

Reference to Tomita et al (6,295,175) cited as of interest.

**Conclusion**

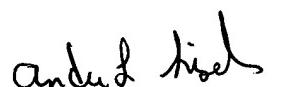
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Varsha A Kapadia whose telephone number is (703) 305-4198. The examiner can normally be reached on Mon-Wed from 6:30 AM to 2:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David R. Hudspeth can be reached on (703) 308-4825. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



VK



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